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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,367	11/03/2000	Wade J. Doll	901115.434	7548

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EXAMINER

LEO, LEONARD R

ART UNIT PAPER NUMBER

3743

DATE MAILED: 08/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/705,367

Applicant(s)

DOLL, WADE J.

Examiner

Leonard R. Leo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-22, 29-31 and 35-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 43-46 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, 10, 11, 15, 17-22, 29-31 and 35-42 is/are rejected.
- 7) ☒ Claim(s) 9, 12-14 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

The amendment filed June 12, 2002 has been entered. Claims 5 and 32-34 are cancelled, claims 1-4, 6-22, 29-31 and 35-46 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 29-31 and 35-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29 is indefinite, in that the recitation of “and by comprises increasing the fluid velocity” in line the last line of the claim is not clearly understood. It is suggested “and” and “comprises” be deleted. Furthermore, it is suggested the recitation of “and” after the semicolon in line 5 be deleted, “; and” be inserted at the end of line 7, and “flows” in line 9 be singular.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-8 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Opitz et al (column 3, lines 3-13). It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d

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1647 (1987). In this instance, the functional recitations of an "inlet" and "outlet" are not structural limitations associated with the "aperture."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-11, 18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz et al in view of Kodama et al.

Opitz et al discloses all the claimed limitations except two concentric arrays of fins.

Kodama et al discloses a heat exchanger (Figures 5-7) comprising a heat conducting surface 122 and a plurality of radial fin arrays F1-60a and F1-60b arranged in a spiral pattern for the purpose of improving heat exchange efficiency.

Since Opitz et al and Kodama et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Kodama et al would have been recognized in the pertinent art of Opitz et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Opitz et al a plurality of radial fin arrays arranged in a spiral pattern for the purpose of improving heat exchange efficiency as recognized by Kodama et al.

Regarding claim 20, the inlet and outlet are inherently connected to conduits.

Claims 1-4, 7-8, 10-11, 17-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Little in view of Kodama et al.

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Little discloses all the claimed limitations except radial fins.

Kodama et al discloses a heat exchanger (Figures 5-7) comprising a heat conducting surface 122 and a plurality of radial fin arrays F1-F60a, F1-60b arranged in a spiral pattern for the purpose of improving heat exchange efficiency.

Since Little and Kodama et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Kodama et al would have been recognized in the pertinent art of Little.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Little radial fin arrays arranged in a spiral pattern for the purpose of improving heat exchange efficiency as recognized by Kodama et al.

Claims 1-4, 6-8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Little in view of Turner.

The device of Little lacks radial fins.

Turner discloses a heat exchanger comprising a chamber defined by overhead wall 10 having a central inlet 15 and unlabelled peripheral outlet; a fin plate 20 having a plurality of curved fins 22-27 arranged in a radial spiral pattern for the purpose of improving heat exchange efficiency.

Since Little and Turner are both from the same field of endeavor and/or analogous art, the purpose disclosed by Turner would have been recognized in the pertinent art of Little.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Little curved fins arranged in a radial spiral pattern for the purpose of improving heat exchange efficiency as recognized by Turner.

Claims 6, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Little in view of Kodama et al as applied to claims 1-4, 7-8, 10-11, 17-18 and 20-21 above, and further in view of Turner, as applied to claims 1-4, 6-8 and 17 above.

Regarding claim 22, Turner discloses inlet and outlet threaded fittings 13 and 14, respectively.

Allowable Subject Matter

Claims 9, 12-14 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 29-31 and 35-42 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 43-46 are allowed.

Response to Arguments

The rejections in view of Schmidt, Engel et al, Turner, Little and Iversen et al are withdrawn.

Applicant has failed to argue the case law of *Ex parte Masham*, where it is believed Opitz et al meets all the claimed structural limitations. Opitz et al discloses central and peripheral ports. Referencing one as an inlet and the other an outlet does not structurally define over Opitz et al. As claimed, the instant invention recites a device, which by itself is not operable. When the device is employed into a system, the functionality of the ports is given patentable weight. There is no patentable difference between a device being fluidly connected in reverse.

The rejection in view of Kodama et al teaching one of ordinary skill in the art to employ fins arranged in a radial pattern is deemed correct for lack of any arguments to the contrary.


Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry of a general nature, relating to the status of this application or clerical nature (i.e. missing or incomplete references, missing or incomplete Office actions or forms) should be directed to the Technology Center 3700 Customer Service whose telephone number is (703) 306-5648.

Any inquiry concerning this Office action should be directed to Leonard R. Leo whose telephone number is (703) 308-2611.


LEONARD R. LEO
PRIMARY EXAMINER
ART UNIT 3743

August 26, 2002